

alternate or irregular, not opposite, forming wavy meshes, loosely reticulate. Capitate hyphopodia alternate, often bent, 25–35 μ long; stalk cell cuneate to cylindrical, 6–14 μ long; head cell irregularly lobed and often sharply bent, 15–22 \times 10–17 μ , versiform. Mucronate hyphopodia few, mixed with the capitate, alternate, bent ampulliform, 20–25 \times 7–9 μ , the neck 3–4 μ thick. Mycelial setae none. Perithecia loosely scattered, black, globose, very rough, up to 250 μ diam., with many cells of the upper half produced into erect-spreading, curved, larviform appendages, which are translucent pale brown with darker tip and base, continuous, transversely striate, obtuse, straight or with bent tips, thin-walled, up to 75 \times 15 μ , somewhat attenuate upwards. Spores dark brown, cylindrical to ellipsoid, obtuse, 3-septate, slightly constricted, 44–51 \times 16–19 μ , the middle cells often longer and sometimes wider than the end cells.

(4) *MELIOLA CERATOPETALI* Hansf., n. sp. (3111.5221). (Fig. 4.)

Plagulae amphigenae, tenues, usque ad 5 mm. diam. Mycelium ex hyphis atrobrunneis, subrectis, 6–7 μ crassis (cellulis plerumque 30–40 μ longis), opposite acuteque ramosis, laxe reticulatis compositum. Hyphopodia capitata alternata, recta vel curvata, 17–25 μ longo; cellula basali cylindracea, 3–6 μ longa, cellula apicali cylindracea apice rotundata, integra, recta vel curvata, 13–20 \times 7–10 μ . Hyphopodia mucronata illis capitatis commixta, alternata, raro opposita, ampullacea, curvata, 15–25 \times 6–8 μ , collo suberecto, 3 μ crasso praedita. Setae myceliales paucae, juxta perithecia evolutae, erectae, rectae, simplices, obtusae, usque ad 150 \times 7–8 μ . Perithecia dispersa, atra, globosa, verrucosa, usque ad 160 μ diam., cellulis parietis obtuse conoideis. Sporae atrobrunneae, cylindraceae, obtusae, 4-septatae, 43–51 \times 17–18 \times 14–16 μ .

Hab. in foliis *Ceratopetali apetalii*, National Park, N.S.W., Fraser 151 (typus in Herb. Dept. Agric., Sydney); Narrabeen, N.S.W., Fraser 88; Wahroonga, N.S.W., Fraser 166, p.p.

Colonies amphigenous, thin, up to 5 mm. diam. Mycelium of substraight dark brown hyphae 6–7 μ thick, the cells mostly 30–40 μ long, branching opposite at acute angles, loosely reticulate. Capitate hyphopodia alternate, straight or bent, 17–25 μ long; stalk cell cylindrical, 3–6 μ long; head cell cylindrical with rounded apex, entire, straight or bent, 13–20 \times 7–10 μ . Mucronate hyphopodia mixed with capitate, alternate, rarely opposite, bent ampulliform 15–25 \times 6–8 μ , neck upturned, 3 μ thick. Mycelial setae very few, only around the perithecia, erect, straight, simple, obtuse, up to 150 \times 7–8 μ . Perithecia scattered, black, globose, verrucose, up to 160 μ diam., the surface cells bluntly conoid. Spores dark brown, cylindrical, obtuse, 4-septate, 43–50 \times 17–18 \times 14–16 μ .

The mycelium of this species is very different from that of the preceding, so that separation of the two when occurring in mixed infection on the leaves is simple. Many colonies are almost devoid of mycelial setae and then appear to belong to *Irenina*.

Family CYPERACEAE.

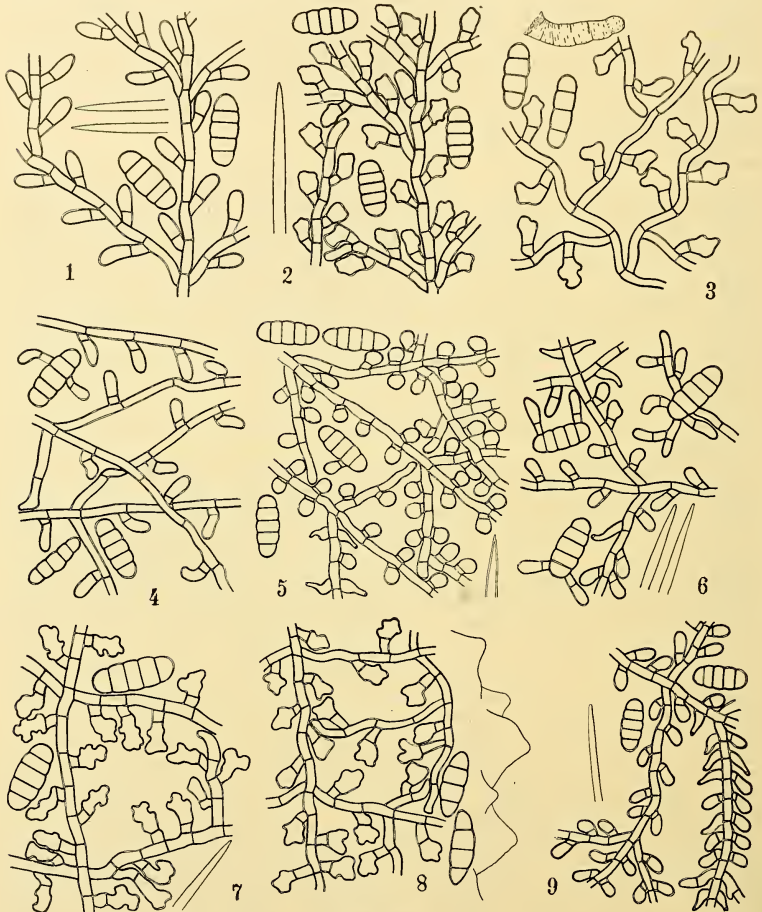
(5) *MELIOLA ARGENTINA* Speg., in *Anal. Soc. Cient. Argent.*, 9: 177, 1880 (3411.5233).

On *Gahnia clarkei*, Urunga, N.S.W., Fraser 227; on *Gahnia* sp., Pennant Hills, N.S.W., Fraser 8; Narrabeen, Fraser 119.

Colonies amphigenous, up to 1 mm. diam., scattered, black, dense, somewhat velvety, not usually confluent. Mycelium closely reticulate, of dark brown, substraight to slightly flexuose hyphae, 7–9 μ thick, the cells mostly 20–25 μ long, branching usually alternate or irregular, rarely opposite, at acute angles. Capitate hyphopodia alternate, straight or bent, 20–35 μ long; stalk cell cylindrical, 3–12 μ long; head cell straight or bent, more or less oblong, irregularly angulose to lobed, versiform, 16–25 \times 10–18 μ . Mycelial setae scattered and also grouped around the perithecia, erect, straight, simple, obtuse, up to 600 \times 11–13 μ . Perithecia closely scattered, black, globose, verrucose, up to 270 μ diam., with about six erect-spreading, simple, obtuse or acute, more or less circinate, setae on upper half, up to 120 \times 9–11 μ . Spores dark brown, cylindrical with obtuse ends, 4-septate, constricted, 47–56 \times 15–18 \times 12–14 μ .

This species has now been recorded on various genera of this family throughout the warmer regions of the world; its range of variation and the precise differentiation from other very closely related species still remain to be elucidated.

Family DILLENIACEAE.

(6) *MELIOLA WORMIAE* Hansf., n. sp. (3113.4221). (Fig. 5.)Plagulae epiphyllae, densae, subvelutinae, usque ad 4 mm. diam. Mycelium ex hyphis atrobrunneis, subrectis, 7μ crassis (cellulis plerumque $15-30\mu$ longis), opposite

Text-figures 1-9.*

1, *Meliola melodini*. 2, *M. carissae* var. *parsonsiae*. 3, *Irene megalongensis*. 4, *Meliola ceratopetali*. 5, *M. wormiae*. 6, *M. diospyricola*. 7, *M. diospyri-pentameriae*. 8, *M. cyathodis* var. *trochocarphae*. 9, *M. petalostigmatis*.

ramosis (circa 45°), dense reticulatis compositum, subsolidum. Hyphopodia capitata opposita vel alternata, plerumque recta, $11-17\mu$ longa, cellula basali cylindracea, $2-6\mu$ longa, cellula apicali globosa, integra, $10-13\mu$ diam. Hyphopodia mucronata illis capitatis

* All figures are $\times 250$. Mycelium, hyphopodia, spores and setal tips are shown, with outlines of perithecial cells for *Irenina* spp. and perithecial appendage for *Irene* spp.